Patent Docket P1150R2C1

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of Avi J. Ashkenazi et al. Serial No.: not yet assigned Filed: February 22, 2002 For: DNA 19355 Polypeptide, A Tumor Necrosis Factor Homolog	Group Art Unit: not yet assigned Examiner: not yet assigned **CERTIFICATE OF EXPRESS MAILING** **Express Mail Number: EV 016026442 US** I hereby certify that this correspondence is being deposited with the United States Postal Service "Express Mail Post Office to Addressee" service under 37 CFR 1.10 on the date indicated below and is addressed to "Assistant Commissioner of Patents, Washington, D.C. 20231. February 22, 2002 Diane L. Marschang Diane L. Marschang

PRELIMINARY AMENDMENT

Box Patent Application
Assistant Commissioner of Patents
Washington, D.C. 20231

Sir:

This paper is being filed concurrently with Applicants' Rule 53(b) continuation application. Entry of the following preliminary amendment is requested prior to examination on the merits.

In the Specification:

In the paragraph beginning at line 8, page 1, the specification has been amended to read as follows:

--- This application is a continuation of Serial No. 09/195,368 filed November 18, 1998, which claims priority under Section 119(e) to provisional application number 60/065,635 filed November 18, 1997, now abandoned, and provisional application number 60,069,661 filed December 12, 1997, now abandoned, the contents of which are hereby incorporated by reference.---

In the paragraph on page 8, lines 27-28, the text has been amended to

read as follows:
—Figures 1-1 - 1-3 show the nucleotide sequence (SEQ ID NO:2) of a cDNA for human DNA19355 and its derived amino acid sequence (SEQ ID NO:1).---

In the Claims:
Claims 1-9 and 11-26 as originally filed have been canceled without prejudice.

The following claim 10 remains pending:
10. Isolated DNA19355 polypeptide comprising amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

The following claims have been added:
—27. An isolated nucleic acid comprising DNA encoding a DNA19355 polypeptide consisting of amino acid residues X to 177 of Fig. 1 (SEQ ID NO:1), wherein X is any one of amino acid residues 48 to 57 of Fig. 1 (SEQ ID NO:1).

28. The nucleic acid of claim 27 comprising DNA encoding a DNA19355 polypeptide consisting of amino acid residues 52 to 177 of Fig. 1 (SEQ ID NO:1).

29. An isolated nucleic acid comprising a DNA encoding a polypeptide having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said encoded polypeptide induces apoptosis in a mammalian cell.

30. The nucleic acid of claim 29 wherein said DNA encodes a polypeptide having at least 90% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

31. The nucleic acid of claim 29 wherein said DNA encodes a polypeptide having at least 95% amino acid sequence identity with native sequence

DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

32. A vector comprising the nucleic acid of claim 29.

33. The vector of claim 32 operably linked to control sequences recognized by a host cell transformed with the vector.

34. A host cell comprising the vector of claim 33.

35. The host cell of claim 34 which is a CHO cell.

36. The host cell of claim 34 which is an *E. coli*.

37. The host cell of claim 34 which is a yeast cell.

38. A process for producing DNA19355 polypeptides comprising culturing the host cell of claim 34 under conditions suitable for expression of the polypeptide and recovering the polypeptide from the cell culture.

39. An isolated nucleic acid comprising a DNA encoding a polypeptide having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said encoded polypeptide activates NF-KB in a mammalian cell.

40. The nucleic acid of claim 39 wherein said encoded polypeptide has at least 90% amino acid sequence identity.

41. The nucleic acid of claim 39 wherein said encoded polypeptide has at least 95% amino acid sequence identity.

42. A vector comprising the nucleic acid of claim 39.

43. The vector of claim 42 operably linked to control sequences

recognized by a host cell transformed with the vector.

44. A host cell comprising the vector of claim 42.

45. The host cell of claim 44 which is a CHO cell.

46. The host cell of claim 44 which is an *E. coli*.

47. The host cell of claim 44 which is a yeast cell.

48. A process for producing DNA19355 polypeptides comprising culturing the host cell of claim 44 under conditions suitable for expression of the polypeptide and recovering the polypeptide from the cell culture.

49. An isolated nucleic acid comprising a DNA encoding a soluble polypeptide having at least 80% amino acid sequence identity with the extracellular domain sequence of a DNA19355 polypeptide consisting of amino acid residues 52 to 177 of Fig. 1 (SEQ ID NO:1), wherein said encoded soluble polypeptide can bind GITR receptor or stimulate mammalian T cells to secrete TNF-alpha.

50. The nucleic acid of claim 49 wherein said encoded polypeptide has at least 90% amino acid sequence identity.

51. The nucleic acid of claim 49 wherein said encoded polypeptide has at least 95% amino acid sequence identity.

52. An isolated nucleic acid comprising DNA encoding (a) a DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1) or (b) a fragment of (a) which can induce apoptosis in a mammalian cell, activate NF-KB in a mammalian cell, bind to GITR receptor or stimulate mammalian T cells to secrete TNF-alpha.

53. An isolated nucleic acid comprising DNA encoding a DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ

ID NO:1).

54. A vector comprising the nucleic acid of claim 53.

55. The vector of claim 54 operably linked to control sequences recognized by a host cell transformed with the vector.

56. A host cell comprising the vector of claim 54.

57. The host cell of claim 56 which is a CHO cell.

58. The host cell of claim 56 which is an *E. coli*.

59. The host cell of claim 56 which is a yeast cell.

60. A process for producing DNA19355 polypeptides comprising culturing the host cell of claim 56 under conditions suitable for expression of the polypeptide and recovering the polypeptide from the cell culture.

61. An isolated nucleic acid comprising the cDNA insert of the vector deposited as ATCC accession number 209466.

62. An isolated polypeptide having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said polypeptide induces apoptosis in a mammalian cell.

63. The polypeptide of claim 62 wherein said polypeptide has at least 90% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

64. The polypeptide of claim 62 wherein said polypeptide has at least 95% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1)

65. An isolated polypeptide having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said polypeptide activates NF-KB in a mammalian cell.

66. The polypeptide of claim 65 wherein said polypeptide has at least 90% amino acid sequence identity.

67. The nucleic acid of claim 65 wherein said encoded polypeptide has at least 95% amino acid sequence identity.

68. An isolated soluble polypeptide having at least 80% amino acid sequence identity with the extracellular domain sequence of a DNA19355 polypeptide consisting of amino acid residues 52 to 177 of Fig. 1 (SEQ ID NO:1), wherein said soluble polypeptide can bind GITR receptor or stimulate mammalian T cells to secrete TNF-alpha.

69. The polypeptide of claim 68 wherein said polypeptide has at least 90% amino acid sequence identity.

70. The polypeptide of claim 68 wherein said polypeptide has at least 95% amino acid sequence identity.

71. An isolated polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

72. An isolated antibody which specifically binds to the polypeptide of claim 10 or 71.

73. The antibody of claim 72 wherein said antibody is a monoclonal antibody.

74. The antibody of claim 73 wherein said antibody is a chimeric antibody.

75. The antibody of claim 73 wherein said antibody is a human antibody.

76. The antibody of claim 73 wherein said antibody is a humanized antibody.

77. A method of inducing apoptosis in mammalian cancer cells comprising exposing mammalian cancer cells to an effective amount of the polypeptide of claims 10, 62, or 71.

78. A method of stimulating a proinflammatory response in mammalian cells comprising exposing mammalian cells to an effective amount of the polypeptide of claims 68, 69, or 70.

79. The method of claim 78 wherein said mammalian cells are T cells.---

REMARKS

In the preliminary amendment herein, the specification has been amended to reflect the priority application information on page 1 and to accurately reflect the numbering of certain formal drawings being filed herewith.

Claims 1-9 and 11-26 as originally filed in the application have been canceled without prejudice and without acquiescence to any objections or rejections made by the Examiner in Applicants' prior application. Independent Claim 10 remains pending. Claims 27-79 have been added. These added claims are fully supported by the specification and do not introduce new matter.

A clean copy of now pending claims 10 and 27-79 is provided above. Attached hereto is a marked-up version of the changes made to the specification and the claims by the current amendment. The attachment is captioned "**Version with markings to show changes made.**"

Respectfully submitted,
GENENTECH, INC.

Date: February 22, 2002

By: Diane L Marschang
Diane L. Marschang
Reg. No. 35,600
Telephone: (650) 225-5416

VERSION WITH MARKINGS TO SHOW CHANGES MADE

In the Specification:

In the paragraph beginning at line 8, page 1, the specification has been amended as follows:

--- [This is a non-provisional application claiming] This application is a continuation of Serial No. 09/195,368 filed November 18, 1998, which claims priority under Section 119(e) to provisional application number 60/065,635 filed November 18, 1997, now abandoned, and provisional application number 60,069,661 filed December 12, 1997, now abandoned, the contents of which are hereby incorporated by reference.---

In the paragraph on page 8, lines 27-28, the text has been amended as follows:

—Figures 1-1 - 1-3 show[s] the nucleotide sequence (SEQ ID NO:2) of a cDNA for human DNA19355 and its derived amino acid sequence (SEQ ID NO:1).---

In the Claims:

Please cancel claims 1-9 and 11-26 without prejudice.

Please add the following claims:

—27. An isolated nucleic acid comprising DNA encoding a DNA19355 polypeptide consisting of amino acid residues X to 177 of Fig. 1 (SEQ ID NO:1), wherein X is any one of amino acid residues 48 to 57 of Fig. 1 (SEQ ID NO:1).

28. The nucleic acid of claim 27 comprising DNA encoding a DNA19355 polypeptide consisting of amino acid residues 52 to 177 of Fig. 1 (SEQ ID NO:1).

29. An isolated nucleic acid comprising a DNA encoding a polypeptide

having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said encoded polypeptide induces apoptosis in a mammalian cell.

30. The nucleic acid of claim 29 wherein said DNA encodes a polypeptide having at least 90% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

31. The nucleic acid of claim 29 wherein said DNA encodes a polypeptide having at least 95% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

32. A vector comprising the nucleic acid of claim 29.

33. The vector of claim 32 operably linked to control sequences recognized by a host cell transformed with the vector.

34. A host cell comprising the vector of claim 33.

35. The host cell of claim 34 which is a CHO cell.

36. The host cell of claim 34 which is an *E. coli*.

37. The host cell of claim 34 which is a yeast cell.

38. A process for producing DNA19355 polypeptides comprising culturing the host cell of claim 34 under conditions suitable for expression of the polypeptide and recovering the polypeptide from the cell culture.

39. An isolated nucleic acid comprising a DNA encoding a polypeptide

having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said encoded polypeptide activates NF-KB in a mammalian cell.

40. The nucleic acid of claim 39 wherein said encoded polypeptide has at least 90% amino acid sequence identity.

41. The nucleic acid of claim 39 wherein said encoded polypeptide has at least 95% amino acid sequence identity.

42. A vector comprising the nucleic acid of claim 39.

43. The vector of claim 42 operably linked to control sequences recognized by a host cell transformed with the vector.

44. A host cell comprising the vector of claim 42.

45. The host cell of claim 44 which is a CHO cell.

46. The host cell of claim 44 which is an *E. coli*.

47. The host cell of claim 44 which is a yeast cell.

48. A process for producing DNA19355 polypeptides comprising culturing the host cell of claim 44 under conditions suitable for expression of the polypeptide and recovering the polypeptide from the cell culture.

49. An isolated nucleic acid comprising a DNA encoding a soluble polypeptide having at least 80% amino acid sequence identity with the extracellular domain sequence of a DNA19355 polypeptide consisting of amino acid residues 52 to 177 of Fig. 1 (SEQ ID NO:1), wherein said encoded soluble polypeptide can bind GITR receptor or stimulate

mammalian T cells to secrete TNF-alpha.

50. The nucleic acid of claim 49 wherein said encoded polypeptide has at least 90% amino acid sequence identity.

51. The nucleic acid of claim 49 wherein said encoded polypeptide has at least 95% amino acid sequence identity.

52. An isolated nucleic acid comprising DNA encoding (a) a DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1) or (b) a fragment of (a) which can induce apoptosis in a mammalian cell, activate NF-KB in a mammalian cell, bind to GITR receptor or stimulate mammalian T cells to secrete TNF-alpha.

53. An isolated nucleic acid comprising DNA encoding a DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

54. A vector comprising the nucleic acid of claim 53.

55. The vector of claim 54 operably linked to control sequences recognized by a host cell transformed with the vector.

56. A host cell comprising the vector of claim 54.

57. The host cell of claim 56 which is a CHO cell.

58. The host cell of claim 56 which is an *E. coli*.

59. The host cell of claim 56 which is a yeast cell.

60. A process for producing DNA19355 polypeptides comprising culturing the host cell of claim 56 under conditions suitable for expression of

the polypeptide and recovering the polypeptide from the cell culture.

61. An isolated nucleic acid comprising the cDNA insert of the vector deposited as ATCC accession number 209466.

62. An isolated polypeptide having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said polypeptide induces apoptosis in a mammalian cell.

63. The polypeptide of claim 62 wherein said polypeptide has at least 90% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

64. The polypeptide of claim 62 wherein said polypeptide has at least 95% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1)

65. An isolated polypeptide having at least 80% amino acid sequence identity with native sequence DNA19355 polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1), wherein said polypeptide activates NF-KB in a mammalian cell.

66. The polypeptide of claim 65 wherein said polypeptide has at least 90% amino acid sequence identity.

67. The nucleic acid of claim 65 wherein said encoded polypeptide has at least 95% amino acid sequence identity.

68. An isolated soluble polypeptide having at least 80% amino acid sequence identity with the extracellular domain sequence of a DNA19355

polypeptide consisting of amino acid residues 52 to 177 of Fig. 1 (SEQ ID NO:1), wherein said soluble polypeptide can bind GITR receptor or stimulate mammalian T cells to secrete TNF-alpha.

69. The polypeptide of claim 68 wherein said polypeptide has at least 90% amino acid sequence identity.

70. The polypeptide of claim 68 wherein said polypeptide has at least 95% amino acid sequence identity.

71. An isolated polypeptide consisting of amino acid residues 1 to 177 of Fig. 1 (SEQ ID NO:1).

72. An isolated antibody which specifically binds to the polypeptide of claim 10 or 71.

73. The antibody of claim 72 wherein said antibody is a monoclonal antibody.

74. The antibody of claim 73 wherein said antibody is a chimeric antibody.

75. The antibody of claim 73 wherein said antibody is a human antibody.

76. The antibody of claim 73 wherein said antibody is a humanized antibody.

77. A method of inducing apoptosis in mammalian cancer cells comprising exposing mammalian cancer cells to an effective amount of the polypeptide of claims 10, 62, or 71.

78. A method of stimulating a proinflammatory response in mammalian

cells comprising exposing mammalian cells to an effective amount of the polypeptide of claims 68, 69, or 70.

79. The method of claim 78 wherein said mammalian cells are T cells.--